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CACTUS:

Its History,
Classification, Proving and Therapeutical
Application.

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CACTUS:

Its History, Classification, Proving, and Therapeutical Application.

By RICHARD E. KUNZÉ, M. D., of New York City.

BOTANICAL DESCRIPTION.

Natural Order : 43—*Cactaceæ*.

The cactus family are fleshy and thickened ; mostly leafless plants of peculiar aspect, globular or columnar and many-angled, or flattened and jointed, usually with prickles. Flowers solitary sessile ; the sepals and petals numerous, imbricated in several rows, adherent to the one-celled ovary. Stamens numerous, with long and slender filaments, inserted on the inside of the tube or cup formed by the union of the sepals and petals. Style 1 ; stigmas numerous. Fruit a one-celled berry, with numerous campylotropous seeds on several parietal placentæ.

HISTORY.

Cactus is a Greek word, signifying prickly, under the name Theophrastus describes a spiny plant, an article of food, which grew in Southern Europe. It belongs to the consolidated forms of vegetation which are formed on the plan of the least possible amount of surface in proportion to their bulk, and are evidently adapted and designed for very dry regions, and in such only are they found. A green rind serves the purpose as foliage. This genus consists of succulent plants, permanent in duration, singular and various in structure, generally without leaves, and having the stem or branches jointed ; for the most part armed with spines in bundles, with which, in many species, bristles are intermixed. These bundles of spines are placed on the top of the tubercles in the smaller Melon thistle or *Cactus mamillaria*, which is tubercled all over and produces its flowers between the tubercles. In the great Melon Cactus (*Melo Cactus*) the spines are ranged in a single row on the ridge of the ribs. These are of an ovate or globular form. The Torch thistle or Columnar Cactus (*Cereus*), on the contrary, are slender, rise up high, are jointed and branched, many of them are almost cylindrical, with from five to ten shallow ribs ; some, however, are square or three-cornered. The structure of the creeping *Cerei* is the same with these, except that the stems are weak and cannot support themselves ; they therefore seek support from trees and throw out roots from the stem like ivy. In the Prickly Pear or Indian Fig (*Opuntia*) the branches are jointed and flattened like the sole of a shoe ; the bundles of spines or bristles are scattered all over the surface, and the flowers are produced from the edge of the extreme

branches. In the *Epiphyllum* the branches are thinner with shorter and flatter joints, and they are indented along the edge; the flowers come out singly from the indentures. This genus seldom has any spines. *Pereskia* or Barbadoes Gooseberry has a round stock with leafy branches; the leaves are alternate, flat and thick; the prickles are large and stiff and come out in bundles on the stock and branches, chiefly at the axils; the flowers are produced several together from the axils also. In this and the Prickly Pear Cactus the flowers are pitcher-shaped; in the other genera they are subcylindrical and longer; in the *Epiphyllum* very long. The fruit in some of the sorts is small, like currants; but in most it is larger and shaped like a pear or fig, whence their name Prickly Pear or Indian Fig. Cacti thrive in arid regions, such as sandy deserts on rocky soil or limestone formation, which we find in coral reefs along our South Atlantic and Pacific coast. And they belong to such countries as Southern Africa, South and Central America, Mexico, California, Arizona, etc., which have a long hot season with little or no rain, when their stalks and foliage above and their roots beneath being early cut off by drought, the plants rest securely in their compact bulbs, filled with nourishment and retaining their moisture with great tenacity, until the rainy season comes around. Then they shoot forth leafy stems and flowers with wonderful rapidity, and what was perhaps a desert of arid sand becomes green with foliage and gay with blossoms, almost in a day.

During the last decade the virtues of Cactus as a remedial agent were first brought to the notice of the medical profession; and notwithstanding its reputed efficacy in cardiac affections, our works on materia medica, new medicines and botany gave but a meager account of this valuable drug, and scarcely any general description of the plant itself. All of what we knew about it had been copied from homœopathic literature, with the single exception of the descriptive part; to accord it that position in our materia medica, which its well-attested merits deserved, much more information was needed. During the past five years I have searched, studied and utilized all the information I could find upon the subject, and have been enabled to present, if not any new facts, at least a correct history of the plant in a descriptive, historical and medicinal point of view, also I have given a trustworthy account of what I know myself and that which I obtained from my esteemed friend, Mr. Isaac Buchanan, the learned and most extensive florist of this city, whose large collection of Cacti and unlimited freedom of access thereto at his extensive green-houses in Astoria, L. I., have assisted me considerably in recording that which our works on the subject failed to give. A unique little collection of Cacti, presented to me by Mr. I. Buchanan and Mr. Wm. Baker, an amateur of tropical and other rare plants, also of this city, have been of much value to me in confirming information obtained elsewhere and without which much of the interest I have bestowed upon it would have been lost.

This curious tribe of plants comprises eight or more genera and these are subdivided into 800 different species, most all of them natives of America and the West Indies. Cactean plants are divided into the following genera:

Melocactus,
Echinocactus,
Echinopsis,

Mamillaria,
 Cereus,
 Epiphyllum,
 Opuntia,
 Leuchtenbergia,
 Pereskia,
 Rhipsalis,
 Lepismium, and other sub-genera.

DESCRIPTION OF GENERA.

Melocactus. — Also called melon cactus, or melon thistle, from its resemblance to a melon. Habitat: West Indies, South America.

Echinocactus. — From *echinos*, the sea urchin, *cactus*, spiny shape; globose or roundish oblong. Habitat: Mexico, Chili and Brazil.

Echinopsis. — From *echinos*, a hedgehog, *opsis*, resemblance. It does not differ much from echinocactus. Shape: ovate globose or globose depressed. Habitat: Porto Rico and Chili.

Mamillaria. — So named from mamilla, a nipple or tubercle, and known as ball cactus, being covered all over with tubercles. Shape: oblong cylindrical, oval cylindrical and globose subcylindrical. Habitat: Mexico and Chili.

Cereus. — From *cereus*, a torch or taper; from its resemblance of the joints to such. Shape: columnar, cylindrical, roundish and angular. Habitat: Brazil, Mexico, West Indies and Central America.

Epiphyllum or *Crabscaw Cactus*. — From *epi*, upon, *phyllon*, a leaf; on account of the flowers appearing upon its leaves. Shape: branches are flat, foliaceous, ensiform or obovate truncate, often crenated or repandly toothed. Habitat: Brazil, South America, Mexico, and Honduras.

Opuntia. — Generally known as prickly pear and Indian fig. Branches resembling the palm of a hand or the sole of a shoe. The plant appears like a series of thick succulent leaves, one growing from the top of another. Habitat: North, South and Central America, Mexico, West Indies, and Southern Europe.

Leuchtenbergia. — Named in honor of Prince Leuchtenberg, said to have had the largest collection of cacti in Europe. Shape: shrub, fleshy cylindrical, mamillæ, elongated leaf-formed triquetrous truncate. Habitat: Mexico.

Pereskia. — Called Barbadoes gooseberry. Shape: joints ovate, oblong or leaves elliptical and fleshy. Habitat: Mexico and West Indies.

Rhipsalis or *Coral Cactus*. — Resembling a leafless willow branch, in allusion to the flexible decumbent branches of this genus. Habitat: South America, West Indies and Africa.

Lepismium. — From *lepis*, a scale, having such at crenatures. Shape: joints elongated, slender, angular, erect or suberect and margins crenulated. Habitat: Brazil.

DESCRIPTION OF SPECIES.

In order to be brief I will attempt to describe a few species only of those genera which have been utilized by mankind and serve the inhabitants of countries wherein Cacti grow, not only as an article of food, but furthermore, as fuel and various other purposes. That many of

them are medicinal I have not the least doubt, and having tried a few new species myself, not heretofore mentioned, I hope to stimulate other therapeutists in following up this wide field for the development of their remedial effects.

Cactus melocactus, the great melon cactus or Turk's cap, appears like a large fleshy green melon, with deep ribs, set all over with strong sharp thorns. When it is cut through the middle, the inside is found to be a soft, green, fleshy substance, very full of moisture. The flowers and fruit are produced in circles around the upper part of the cap. The flowers are bell-shaped and of deep crimson color, the same as the fruit, which is rather of an elongated form and of the size of a pigeon's egg. Some of those which have been brought here, have been more than a yard in circumference and two and a half feet high. In the West Indies there are plants nearly twice as large, and quite recently several weighing 600 pounds each were shipped from this port to Europe. They grow upon the steep sides of rocks in the hottest parts of America, where they seem to be thrust out of the apertures, having little or no earth to support them; their roots shooting down into the fissures of the rocks to a considerable depth, so that it is troublesome to get the plant up. As they delight in such rocky places, they seldom live long when transplanted into a better soil. In times of great drouth the cattle repair to the barren rocks where these plants grow, rip them up with their horns, tear off the outside skin and greedily devour all the fleshy moist part. The fruit is frequently eaten by the inhabitants of the West Indies. It is of an agreeable acid taste.

Echinocactus visnaga. This wonderful plant was found in Mexico, at San Louis Potosi, and is one of the largest and most remarkable of the cactus family. In its native country it bears the name of "*Visnaga*" signifying a tooth-pick among the Mexican settlers, who use the spines for that purpose. The original plant was 9 feet high and 9 and a half feet in circumference. It weighed a ton. This specimen had been sent to the Botanic Garden at Kew, England, where after a year of apparent health it exhibited symptoms of internal decay, the inside became a putrid mass and the crust or shell fell by its own weight. It produces its flowers on the edge of the ribs, not very far from the top of the plant.

Echinocactus Wislizeni is found in Arizona and Mexico, where it is called by the Spaniards, "*Biznacha*," and being 20 inches or more in diameter, a section of the stem is often employed as a cooking vessel. The seeds are small and black; but when parched and pulverized, make good gruel and even bread. The pulp of the fruit is rather sour, and not so much eaten as the prickly pear. Travelers in passing through the cactus wastes often resort to this plant to quench their thirst, its interior containing a soft, white, watery substance, of slightly acid taste, which is rather pleasant when chewed. Plants may be seen on each side of the road, with a large perforation made by the thirsty traveler. An Indian, when traveling and wishing to make a meal, selects a large plant, three feet or more long and two in diameter, cuts it down and hollows it out so as to form a trough; into this he throws the soft portions of the pulpy substance which surrounds the central woody axis, and adds meat, roots, seed, meal, fruits or any thing edible on hand; water is added, and the whole mixed together; stones are then highly heated and dropped into the mixture, and as they cool, are taken out, licked clean, reheated and returned to the cooking vessel,

until the mixture is thoroughly boiled. This is a favorite dish with the Yabapais and Apaches of Arizona. The Papajo Indians pare off the rind and thorns of large plants of this species of cactus, letting it remain several days to bleed, when the pulp is pared down to the woody axis, cut up into suitable pieces, and boiled in a syrup made from the fruit of *Cereus giganteus* or *Cereus Thurberi*. If a kind of sugar which is made by the Mexicans is attainable, it is employed instead of the syrup, thus forming a good preserve. These pieces, when taken out of the liquid and dried, are as good as candied citron, which they much resemble in taste and substance.

Mamillaria or ball cactus as a genus do not present any very striking characteristics, neither are their flowers so gorgeous and large as those of the cereus and epiphyllum. Their compact bodies, whether round or elongated, are thickly studded with tubercles, from the ends of which the spines or bristles project. The small flowers, many of which are bell shaped, and white in color, are produced from between the tubercles as well as its diminutive fruit or scarlet berries. This latter is about the size of the tubercles.

Cereus grandiflorus (verus) (*De Candolle*) Synonyme; *Cactus grandiflorus*, night-blooming cereus or Vanilla Cactus is the noblest of all the cactus tribe, so far as it relates to their flowers, which are of remarkable beauty and fragrance. When arrived to a sufficient strength, it will produce many exceedingly large, beautiful sweet-scented flowers, like most of this kind, of very short duration, scarcely continuing six hours full blown; nor do the flowers ever open again when once closed. They begin to open between seven and eight o'clock in the evening, are fully blown by eleven, and by three or four in the morning they fade, and hang down quite decayed; but during their short continuance, there is scarcely any flower of greater beauty, or that makes a more magnificent appearance. The calyx of the flower, when open, is near a foot in diameter; the inside of which being of a splendid yellow color, appears like the rays of a bright star, the outside is of a dark brown, and the petals being of a pure white, add to the luster; the vast number of recurved stamens surrounding the style in the center of the flower make a fine appearance; added to all this is the fine scent of the flower, which perfumes the air to a considerable distance around. There is scarcely any plant which deserves a place in a hot-house so much as this, especially as it may be trained against the wall, in the manner of a vine, not taking up much room. The usual season of its flowering is in July, and when plants are large, many flowers will open the same night, and there will be a succession of them for several nights together. Another strange feature of this, as well as other night-blooming cacti is, that its mature flower-buds do not emit any fragrance in the daytime. It is not succeeded in cultivation by any appearance of fruit. This, in its native haunts of Jamaica, is of a beautiful, violet and yellow color, as long as a good-sized plum. The joints or stems are from one half to two inches in diameter, seven-angled or more, and from its creeping habit ascends any convenient tree or shrubbery, often covering up its neighbor with its luxuriant shoots and flowers to such an extent, that it is with difficulty ascertained whether the object you behold is a cactus or some other tree. This holds good with many of the creeping, trailing and slender species of cerei, which also for want of a better support, oftentimes overrun the ground and rocks above. Here they trail like

serpents over the ground, and twine themselves in knotty coils around fallen trunks, and among the crevices of the barren rocks. Others hang like ropes from the limbs of over-shadowing trees, and often present impenetrable jungles to man or beast. This *Cereus grandiflorus* is the one so highly extolled as a remedy in certain diseases of the heart, of which more hereafter. It inhabits Jamaica, W. I., and is cultivated for the beauty of its flowers in adjacent islands, as well as in Europe and the United States of America.

Cereus Bonplandii (Parnet) or white grandiflora is another variety of night-blooming cerei, nearly allied to the last-named species, from which it differs more in the shape of its joints than in the size and color of its flowers. In growth it is not as rank as the other, with stems four or five angled, slightly ribbed and not so thickly beset with spines as the other varieties, stems rooting. Thickness of joints from one-half to one and a half inches in diameter and in color of a deeper green. The flower proper is from seven to eight inches long, including the flower-tube, nearly a foot and it measures fully nine inches in width. The sepals of the tube are of a cinnamon color; the outside row of petals is of a lemon-yellow and the inner row a pure white. In fragrance it is not excelled by any other variety, and it flowers at night very much the same as the preceding variety. The fruit is small. It is a native of the West India islands. Of this it may be said that like other night-blooming cerei, it can be changed in its habit of flowering at night and made to produce flowers of equal beauty and fragrance in broad daylight. I will now state what Mr. Schott, director of the botanic garden of Vienna, accomplished with one of these plants to suit the whim of an emperor, who could not have thought of such an idea as to have made a visit to the conservatory by night, for the mere purpose of beholding a *cereus grandiflorus* in flower. For three months in succession, Mr. Schott caused this *cereus* to be shaded and finally excluded from all light during the day, at the same time subjecting it to the action of an electric light at night in such a way, that by this gradual change of light into darkness, the habit of the plant was reversed so that it flowered between the hours of nine and ten o'clock in the morning during the month of July, in the year 1850, giving the Emperor Francis Joseph an opportunity to view it at his leisure. As a medicine, this species has proved itself to be a valuable acquisition to our materia medica, especially in all functional disorders of the heart.

Cereus Macdonaldii (Hooker), is another variety not before mentioned, a magnificent species of *cereus* from the Honduras, nearly allied to *cereus grandiflorus*, and flowering in the night also. The stems are from a quarter to one inch in thickness, are five and six-angled; have short, weak spines, and the intermediate space of the spines is concave, giving the deeply-ribbed stems a scalloped appearance. It is of a dark green color. The flower is nine inches in width, having a long flower-tube with greenish sepals. The outer row of petals are a pale yellow, and the innermost petals a pure white, with the anthers projecting fully half an inch beyond the petals. It is fragrant.

There are still the following varieties, several of which we have not had an opportunity yet of examining, viz.: *Cereus nycticalus* (Link), *C. Maynardii*, and *C. albisetosus*, all night-blooming varieties.

Cereus flagelliformis or Rat-tail Cactus produces a greater number of equally handsome flowers than the foregoing sorts, and very fragrant

too. The flowers appear in May and sometimes earlier when the season is warm. The petals are of fine deep pink color, both within and without; they are not very numerous and the tube or calyx of the flower is longer than that of the *cereus grandiflorus*. These flowers keep open three or four days, provided the weather or place where the plants stand be not too warm, and during their continuance they make a fine appearance. This variety has very slender trailing branches which require a support. They are not jointed nor do they extend so far as the other sorts. The fruit of this cactus is yellowish, yet it seldom ripens under cultivation. It is indigenous in Peru. Its rounded shoots, hanging down the sides of the pot-like ropes or cat's tails, give it the appearance of a very ornamental plant. The branches or shoots are thickly covered with fine fuzzy spines. When grafted on a *Pereskia* or *Cereus serpentinus*, it makes an attractive plant.

Cereus triangularis or Strawberry-pear has very large flowers also; the calyx is of a yellowish green, with the points of its sepals tinged red. The petals of the outer circle are a fine yellow, and the inner circle is made up of large white petals. The anthers are yellow and filaments white. It bears a large oval purplish-red fruit, containing a white or light roseate pulp, which has a deliciously-slight acid flavor, and is much esteemed by the inhabitants of Martinique and other West India islands. It is the best-flavored fruit of any of the cacti, and resembles in taste very much the strawberry, being acid, at the same time sweet, pleasant and cooling. The triangular stems of this cactus attain a good size and measure from two to six inches in diameter, according to the variety. At times some of its stems are quadrangular. Many of the crabs-claw cacti are grafted upon the strong stems of this species, so as to produce a greater abundance of flowers, from the increase of nutrition obtained.

Cereus Peruvianus, Synonyme (*C. octangularis*) is another very showy variety. The stems are octangular and very thick. The flower stem or calyx is green with the points of its sepals pinkish. The petals or the flower proper, is white and with the yellow anthers on their white filaments in the center of it, make up a large and handsome flower. The fruit is red. The woody axis of the stems or joints is used as a torch by the Indians, hence the name "toreh thistle" has been given to all of the genus *cereus*. The wood is also used for making fences, beams, posts and door-sills of Indian houses. It is a native of Peru and St. Domingo, where it attains a remarkable size.

Cereus giganteus, the giant or monumental cactus is the largest species of any of this genus, its columnar trunks in the valley of the Gila river, in Arizona, often reaching to the height of from twenty to fifty feet. The Mexicans call it "Suwarrow." It grows on the barren hills, and plains of Arizona, oftentimes four and a half feet in diameter, and is deeply ribbed and covered with long, black spines. The ribs near the base number about twelve, but further up at the bifurcation of the branches the place of greatest diameter, and which is generally fifteen to eighteen feet from the ground, the ribs are increased to thirty in number. The wood at the stem of old trunks becomes a hollow cylinder and from thence to the first branches instead of being solid, it becomes a reticulated net-work of bundles of wood. It flowers from May to July, and the fruit ripens in July and August. The flowers are produced in abundance near the summit of the stems, and the fruit is found always near the center of the top. The flowers are from three

to five inches in length, and three to four inches in diameter. They are supposed to be open day and night. The color of the petals is of a creamy white, that of the sepals a fleshy-greenish white, and the filaments light yellow. The petals are very thick, fleshy and much curled. Its fruit is pear-shaped, of a greenish yellow color, toward the end reddish, with a few small spines scattered over the surface which fall off as the fruit becomes thoroughly ripe. The fruit being borne upon the highest part of the plant, it is usually gathered by means of long hooked sticks or forks tied to the ends of long poles made from the wood of the same. The inside of the fruit is of a beautiful red color and looks tempting; the rind is pulpy, fibrous, juicy and sweet; the pulp is very palatable, and is full of small black seeds, which are also eaten, reminding one of figs, the only difference being that it has more moisture. The seeds are indigestible unless well chewed. The Indians of Arizona, Sonora and the southern portion of California consider this one of their greatest luxuries, and as long as the fruit is obtainable, care for nothing else. To dry this fruit as a preserve, the seedy pulp is placed between soft, inner corn-husks, the ends of which are tied, and it is then dried in the sun for winter use or trade. It is also put up into earthen pots when fresh, secured from the air, and sold in the settlements. It retains its sweetness for a long time, a sample of it having been deposited in the museum of the agricultural department of Washington and was yet good after the lapse of three years. Yet there are instances when it will undergo a slight fermentation, and its color will change to a Vandyke red. A clear light brown syrup is expressed from the pulp also, and sold in one gallon jugs by the Indians for from two to five dollars. The Papajo Indians are the largest producers of this syrup. The Pimo Indians of the Gila river annually prepare a wine from this fruit called by the Mexicans "*tiswein*," by taking the fresh pulp or the syrup and mixing with it a certain quantity of water in earthen vessels and exposing it to the sun for some time to ferment, after which it is fit for drinking. It is highly intoxicating, with the taste and smell of sour beer; but some time elapses after drinking before its stimulating effects are felt. When the wine is ready for use, the Indians celebrate an annual drinking festival. These gatherings are anxiously anticipated for months and expeditions which have been planned against the Apaches while under the influence of drink are then carried into execution. A sample of this wine, three years old, at the Smithsonian Institution of Washington, has improved by age, having acquired a slight sour, muscat taste, but is still very disagreeable. The juice or flesh of this *cereus* is quite bitter and must contain some medicinal properties. The wood of these large cacti is used as fuel, and when made into poles serves as building material for Indian huts, as well as for the purpose of detaching the fruit from the distant stems. Arrows too are made of it, and it is not an uncommon thing to meet numbers of these cacti pierced with arrows, their fruit having served as target for the Indian boys, who in missing their aim had also forfeited their arrows. Plants raised from seeds are globose and retain such shape for many years, being exceedingly slow in their growth, as well as delicate. These differ from all other seedling plants of cerei, with the exception of *Cereus Thurberi*, in that the others at once grow up in a cylindric or prismatic column.

Cereus Thurberi, or Thurber's cactus, named in honor of Dr. George Thurber (an eminent botanist of this city, who discovered the first

specimen some twenty years since while on an exploring expedition in Arizona), grows in the Papajo Indian country, on the borders of Arizona and Sonora, ten to twenty feet high, four to six inches in diameter, and with from five to fifteen stems from one root. It has from thirteen to fourteen ribs, very slightly prominent and bears two crops of fruit per year. This Cactus is called "*Pitahaya*" by the Mexicans. It flowers from late in May to July, and the fruit matures in July and August. The flowers are borne usually from six to twelve inches below the top of the plant, are three inches in length, a little less in diameter, and funnel shaped. The petals are stiff, curling and of a cream-white color. The stamens are yellow and very numerous. The fruit is about the size and shape of an egg, and is thickly covered with long, black spines. As it ripens it becomes tinged with red, the spines fall off, the fruit splits open and exposes a rich, red, juicy pulp, inclosing numerous small, black, smooth seeds. At this time the pulp is rather mawkish to the taste; but a few days' exposure to the sun dries it to about one-third of its original bulk, and the whole mass drops out of the skin. In this state it has the consistency of the pulp of a dried fig, and the saccharated matter being concentrated by drying, it somewhat resembles that fruit in taste. The Pimo and other Indians collect the pulp and roll it into balls, in which state it probably keeps the whole year, as it was offered to an exploring party of the Mexican Boundary Commission, which passed along the route of the river Gila, a confluent of the Colorado, in January, 1851.

This is decidedly better fruit than that of the *Cereus giganteus*, but it is used in every respect for the same domestic purposes. The Papajo Indians, in transporting earthen vessels filled with syrup or preserves made of this fruit to market cover their jars with a thick coating of mud, which renders them less liable to break in handling, and at the same time keeps the contents cool and prevents evaporation, the crockery used being very porous. The fruit is used in enormous quantities, and being very nutritious the consumers quickly acquire an extraordinary increase of bulk. In making wine and syrup, the seeds are easily separated from the pulp by the use of water. They are carefully collected, dried, parched and pulverized, after which process they too are digestible and quite nutritious.

Cereus serpentinus or Snake Cereus is another cactus which is quite plentiful in the West Indies, and of very prolific growth. It is ten-angled, erect, weak, cylindrical, and has white spines, weak also. It is from one to two inches in diameter. The flowers are larger than those of the Rat-tail Cactus (*Cereus flagelliformis*), and are of a white color with a greenish flower tube, stamens arranged in circular rows close to the petals. The fruit is plum-shaped and of a yellowish color. This species contains medicinal properties.

Opuntia vulgaris, Prickly Pear or Indian Fig Cactus has been named after the town of Opus, in the country of the Opuntiani, near Lochris of ancient Greece, where it was found plentiful, as well as in other countries of southern Europe. Theophrastus is accredited with having named it, about which there is some doubt when we take into consideration the fact claimed by botanists, that of its having been introduced and naturalized in southern Europe, the American continent and isles being its native habitat. It bears a yellow flower, and its fruit is of a red color and pear-shaped, covered with bunches of fine spines. In the 35th degree of latitude of this country,

where it arrives like all other varieties of Cacti at its greatest perfection, the fruit is much used as an article of food by all the Indian tribes. Here the plants often attain a height of from ten to twelve feet, a spread of many more in circumference, making impenetrable thickets to man or beast. Near Honolulu, Sandwich Islands, the *Opuntia* are used for hedges of enclosures, and there it grows to the height of from eight to ten feet. In the West Indies, where fifteen feet is not an unusual height of this Cactus, its succulent leaves are used by the negroes for washing clothes in place of soap. These juicy leaves when bruised and rubbed up with water, make a very good lather. Our soldiers who were stationed in the Gulf States during the late civil war, had often substituted it when soap could not be obtained.* It is found growing as far north as Massachusetts, but rather dwarfish in habit, growing not much over a foot high. In our war with Mexico these Cacti became a source of much trouble to the American soldiers, who not being acquainted with the nature of the fine spines with which the surface of the ground was strewn, endured much suffering caused from irritation of the skin by them.

Opuntia Engelmanni, *Rafinesquii*, *Camanchica* and other varieties of prickly pear are largely found in New Mexico, Arizona, California and Utah. The fruit of all these Cacti are known under the common Spanish name of "*tunas*," and much eaten by all the Indians of those states, who dry great quantities of them for winter's use. These plants grow in arid desert regions which produce nothing better; the fruit of all these are of a bright red to purple color, and large size. They are rather pleasant, of sweet, somewhat acid taste, have thin skins and rather large seeds, which are discarded. The skin is studded with bunches of very fine downy spines, which the Indians brush off with a bunch of grass. The Apaches use wooden tongs to gather the fruit, to prevent being scratched by these spines or the thorns of the plant. The Pawnees and Papajoes dry the unripe fruit of the *Opuntia* for future use, to be cooked with meat and other substances. The fresh unripe fruit is often boiled in water from ten to twelve hours, until soft, when it becomes like apple-sauce; then being allowed to ferment a little, it becomes stimulating and nutritious. Some Indians roast the leaves of the *Opuntia* in hot ashes, and when cooked, the outer skin with the thorns is easily removed, leaving a slimy, sweet, succulent substance, which is eaten. Hunger and destitution frequently compel Indians and white men to live for many days on this food. Even the mustang and wild asses know how to satisfy their thirst with it — first, by carefully knocking off the prickly spines with their hoofs, and then safely sucking the cooling juice. A yellowish white gum often oozes out of the leaves of the *Opuntia*, which is also eaten. The flowers of these varieties are nearly all of a sulphur-yellow.

Opuntia ficus indica is very common in Jamaica, and on it feeds the wild cochineal insect. The fruit is large and of a deep purple color, and when eaten dyes the urine a bloody color. Its fruit yields carmine.

* This is easily accounted for when we consider that many of the cacti contain a large percentage of alkali, which they take up as plant-food from the soil in which they grow. We have this illustrated in the decomposed and desiccated specimens of the melon cactus, which are so abundantly found along the shores of the Gulf States. In the center of what was once a gigantic cactus you will find a heap of granular calcareous powder, the very element which the cactus had appropriated from the soil, in the form of a carbonate, and having served its purpose in the plant is yielded up again in a new form — an oxalate of lime.

Opuntia tuna, another prickly pear, is much used as a hedge plant in the West Indies and South America.

Between the English and the French three rows of *Tuna* were planted by common consent between the boundaries. The flowers are of a dull yellow with a roseate blush on the petals of the outer circle, and of quite large size; anthers yellow on long white filaments. The fruit is of a sanguineous color and eatable. It is said, when quite ripe, to check fluxes by its mild astringency; it is also a powerful diuretic, and sometimes imparts a tinge to the urine. It is quite abundant in Jamaica.

Opuntia cochinillifera or Cochineal Fig is the species on which the cochineal insect feeds, chiefly at least. Its flower is red or purple, and the fruit, which is larger than that of *Opuntia vulgaris*, is also edible. On the top of this fruit is imbedded a little, hard, triangular-looking body, the remnant of the style, which, if not discarded, is sure to induce severe constipation. Travelers not aware of this fact have often had to suffer from this inconvenience, after having partaken of too liberal an allowance of this inviting luscious fruit in the arid region of tropical America and the Antilles. Mr. Isaac Buchanan relates that the remedy given to such self-indulgent mortals is castor oil; not the cold-pressed crystal oil, such as is prepared from the beans here at the north, but instead, a nauseous, oily mess, containing rather more of the fresh bean itself than is palatable, being hastily prepared by some plantation negro. This *Opuntia* is largely cultivated for feeding the cochineal insect, because least annoying by its fewer spines than other varieties. The plant is called by the Indians and Mexicans, "*Nopal*," and when cultivated to produce the cochineal, they are then called Nopal plantations. There are two kinds of cochineal gathered and offered for sale, vastly different in size and quality, which it may be interesting here to state. These *Opuntias* for the cultivation of cochineal are planted to a great extent in the country about Oaxaca, Guaxaca and Chiapa in Mexico and the state of Guatemala, adjoining the former republic. The female insects only are placed upon the leaves of the Cactus, generally after the rainy season is over, where, after depositing their eggs, they quickly die. The heat of a tropical sun very soon hatches out an immense number of the young insects. They spread out all over the plant and feed on the same until they are ready to be fecundated by the males. These are provided with wings, whereas the females have none. After this the females attach themselves to the leaves, and although previous to this of very active movements, now only increase rapidly in size, and when fully matured, are almost shapeless and appear more like excrescences of the plant itself than animated beings. At this stage of their development they are detached by means of blunt knives, feathers, etc., and a few only left to propagate their race. They are then destroyed by dipping them enclosed in a bag into boiling water, which causes them to swell to twice their natural size, and afterward dried in the sun. Or they are destroyed in the first place by the heat of a stove, retaining thereby their bright silvery color. The males being much smaller, and only representing only one to one hundred or more of females are not gathered. The cochineal obtained from the wild Nopal or *Opuntia*, and gathered by Indians of Central and South American States is very inferior in size and quality for dyeing purposes. The manner of collecting the wild cochineal insect is said to be as follows: On the top of the fruit there grows the red flower, and this, when the fruit is ripe, falls down on the top of it

and serves as a covering, so that no dew or rain can wet the inside. A day or two after the flower being scorched up by the heat of the sun, the fruit opens wide and the inside appears full of small red insects. The Indians when they perceive the fruit open, spread a large linen cloth, and then with sticks shake the plant to disturb the insects. They take wing, but keep hovering over the plant, till, by the heat of the sun, they fall dead on the cloth, where they are allowed to lay two or three days till they are dry. Six crops a year are sometimes taken of this wild cochineal insect, and only three crops are taken annually when cultivated. Of the wild cochineal, the male insects mostly are thus secured, hence the inferiority.

Epiphyllum or Crabsclaw Cactus; synonyme, *Cactuphyllum* is another genus of which there are many handsome flowering varieties, all profuse bloomers, sometimes producing a hundred or more of gorgeous flowers on a single vigorous plant of good size. One of them is said to be a night-blooming species. The branches of this genus of Cactus resemble leaves more than any other kind, and they are mostly without spines or bristles, except at the crenatures of these leafy branches, from which the most brilliant and gaudy flowers are thrown out, generally of a red, scarlet, purplish or white color. The smaller flowering varieties, such as *Epiphyllum truncatum*, produce the flowers from the end of their branches only, therein differing from *Cactuphyllum*, a sub-genus.

Pereskia aculeata, or Barbadoes Gooseberry, was named in honor of N. F. Peireskins, a lover of botany. It bears a fruit about the size of a walnut, having tufts of small leaves on it, and within a whitish mucilaginous pulp. It is found principally in the West Indies. It is much used for grafting other Cacti thereupon on account of its hardiness, being less liable to rot.

Rhipsalis salicornoides, or Coral Cactus, does not resemble a cactean plant at all. It is a curiously branched, jointed, leafless and prostrate plant inhabiting the East Indies. As its specific name implies, resembling a leafless branch of a willow. It has a very few minute spines on the ends of its delicate branches.

Rhipsalis pendulus is another variety, with long pendant joints, the size of a pencil, hanging down from the clefts of the rocks. It has very small white flowers, and a whitish fruit, berry-like, appears on the ends of its long stems. This variety inhabits Jamaica and St. Domingo; and in Brazil some are found as parasites on trees. Several varieties of this genus are found in Africa, said to be the only true Cactus found in that part of the world, whereas cactean plants are represented there by another order, resembling them in having thick fleshy joints, barbed with bristles, and, when wounded, pouring forth a milky fluid, which latter distinction separates the Euphorbiaceæ from Cactaceæ.

Leuchtenbergia principis is a singular cactean plant. Few persons viewing it, destitute of flowers, would imagine it to belong to Cactææ; the mamillæ have rather the appearance of leaves of some aloid plant; while the stem, appearing as if formed of the persistent basis of old leaves, resembles that of some *Cycadeous* plant. The blossoms differ in no respect from those of the Cerens.

Lepismium myosurus, or Mouse-tail Cactus, Synonyme; *Cereus tennispinus* is a genus composed of very singular plants in habit. The flowers of this species are dispersed from all sides of its rounded pendulous stems, and the latter are covered with spines.

Many other sub-genera have been added to Cactaceæ, which partake of previously described single genera and are known as *Anhalonium*, *Cactophyllum*, *Encereus*, *Echinocereus*, *Lepidocereus*, *Pilocereus*, *Enmamillaria*, *Coryphantha*, *Cylindropuntia*, *Platopuntia* and *Stenopuntia*.

It now remains to notice the sources from which some of the information contained in this paper so far has been obtained. Dr. George Thurber, Isaac Buchanan, Esq., Wm. Baker, Esq., and Mr. Henry Schmidt, all of this city. London's *Encyclopædia of Plants*; Pacific Railroad Survey, Vol. IV.; Mexican Boundary Report, Vol. II.; Agricultural Report, Washington, D. C.; Flora of Africa; Flora Brasiliæ Meridionalis; Flore Des Antilles; Flora Peruviana et Chilensis; Gray's Botany; Narratives of United States and Mexican Boundary Commission, by J. R. Bartlett and Dr. George Engelmann, of St. Louis.

PROPERTIES OF CEREUS GRANDIFLORUS.

Before taking up this drug therapeutically, we wish to call the attention of the profession to the badly applied use of the nomenclature of Cactus in general. While we claim no share in the proper arrangement of cactean plants, we nevertheless claim the propriety to point out existing errors regarding the genus *Cereus*, this being the only kind which as a remedial agent has attracted the attention of the physician as well as of the pharmacist. While *Cactus grandiflorus* was a very proper name for the plant known fifty years ago as the Night-blooming *Cereus*, or the Queen of the Night, it does not follow that we should ignore the more recent and better arrangements of botanists of our day, and for the practical purpose of avoiding mistakes in procuring this drug, know it as *Cereus grandiflorus* only. Besides which there are several varieties of *Cactus grandiflorus* cultivated by florists, one a Night-blooming *Cactophyllum*, and some five or six species of Night-blooming *Cerei*, thereby increasing the difficulty of procuring the right plant. And the opinion of many florists regarding varieties of *Cerei* is very vague and cannot be depended upon, unless they make the cultivation of cactean plants a specialty, very few of them being recognized botanists.

Prof. John King in the *Eclectic Dispensatory*, edition of 1870, says that "*Cereus grandiflorus* (De Candolle), which has five or six not very prominent angles, contains a *milky acrid* juice,* and was used at one time in Mexico as a popular remedy for various diseases, as irritation of the kidneys and bladder, intermittent fever, difficulty in breathing, cough, etc.

It was introduced to the medical profession by Dr. Scheele, of Germany; but little attention, however, was given to it until Dr. R. Rubini, a homœopathic physician, of Naples, brought it into especial notice as a specific in heart diseases.

PROPERTIES AND USES.

Night-blooming *Cereus* diminishes the frequency of the pulse, and

* It contains no milky acrid juice at all, but on the contrary, a clear mucilaginous, subacid juice, pleasant to the taste. All plants yielding when wounded a milky acrid juice, belong unmistakably to the family of Euphorbiaceæ (some of them very poisonous), although they may otherwise resemble cactean plants very much in shape. — R. E. K.

increases the renal secretion, and is, therefore, sedative and diuretic. It does not appear to weaken the nervous system in the least. In large doses it produces gastric irritation, also affects the brain, causing confusion of the mind, hallucination and slight delirium. It is especially useful in diseases of the heart, in which it exerts a very decided action, palliating or removing the symptoms, and frequently giving prompt relief. This influence upon the heart is manifested whether the disease be functional or organic. In palpitation, angina pectoris, cardiac neuralgia, rheumatism or hypertrophy, valvular disease, etc., it is of much benefit, often giving great relief, even in incurable cases. It has likewise been found serviceable in some cases of dropsy, hæmoptysis and tendency to or incipient apoplexy. Its use should be associated with iron in anemic cases, with tonics where great debility exists, with antiscrofulous agents where there is a scrofulous disposition, etc. It has likewise been found useful in cerebral congestion, mental derangements, rheumatism, inflammation of mucous membranes, prostatic disease, irritable bladder, renal congestion, œdematous condition of limbs, dysmenorrhœa, chronic bronchitis, etc. Its value in nervous and organic cardiac diseases is well known, but further investigation is required to prove its usefulness in other maladies referred to above. It appears to be contra-indicated in inflammatory affections during their acute stages."

Prof. John M. Scudder refers to this article in *Specific Medication*, edition of 1871, as follows: "Cactus grandiflorus, or night-blooming Cereus. The influence of cactus seems to be wholly exerted on the sympathetic nervous system, and especially upon, and through the cardiac plexus, etc. It is neither stimulant nor sedative, and rather influences a regular performance of function. The Cactus is a *specific* in heart disease, in that it gives strength and regularity to the innervation of the organ. Its influence is permanent in that it influences the waste and nutrition of the organ, increasing its strength. It exerts no influence upon the inflammatory process, and hence is not a remedy for inflammatory disease. Feelings of weight and pressure at the præcordia, difficult breathing, fear of impending danger, etc., are at once removed. Thus, in the majority of cases of *functional* heart disease, it gives prompt relief, and if continued will effect a cure. In *structural* heart disease, the first use of remedies is to relieve the distressing sensation in the region of the heart, and the unnatural fear of danger which attends them. In the majority of cases the Cactus gives prompt relief. But it will not relieve or cure cases of valvular deficiency, dilatation of the opening of the heart or fatty degeneration."

Prof. Ad. Lippe in the *Homœopathic Materia Medica*, edition of 1866, gives the Pathogenesis of cactus grandiflorus as affecting principally the chest, stomach, abdomen, anus, urinary and sexual organs.

Dr. Wm. L. Breyfogle, in his *Epitome of Homœopathic Medicines*, edition of 1872, on Cactus grandiflorus, sums up as follows: "*Curative range*—Sense of constriction in throat, chest, heart, bladder and rectum. Hemorrhages from nose, lungs, stomach and rectum. Chronic diseases of heart. Cyanosis in infants."

The first provings of Cactus grandiflorus were reported by Dr. Rocco Rubini, of the Hospital de Sainte-Marie de la Cesarea, near Naples, in October, 1864, in *L'Art Medical*, Vol. XX.

In *Hale's New Remedies*, edition of 1867, a homœopathic work of

considerable repute, we find that the juice of *Cactus grandiflorus* is described also as being acrid and milky.* The pathogenesis of *Cactus grandiflorus* is given at great length, and we will not take up any more space in reiterating what has been said already, but will close with an extract from the same work, relating to the publication of the first article on cactus. "Dr. Rocco Rubini, Medical Director of the Homœopathic Hospital of St. Maria de la Cesarea, near Naples, published a pamphlet on Cactus, which was first translated by Dr. Dudgeon, of England, and published in the 22d volume of the *British Journal of Homœopathy*, 1864, with a clinical note by Dr. J. R. Russell. Dr. Ad. Lippe, professor of materia medica in the Homœopathic College of Pennsylvania, not satisfied with the first translation, subsequently translated another, which was published in pamphlet form in 1865."

Dr. A. F. Potter, an old school practitioner of Boston, recommends, in the *Medical and Surgical Journal* of that city, the *Cereus grandiflorus* in affections of the heart. "It is a sedative to the nervous and circulatory systems, and acts on the kidneys; given in the regular medicinal doses repeated at proper intervals, it is found to diminish the frequency of the pulse, and increase the secretion from the urinary organs largely; it is hence of great service in dropsical diseases. In large doses it is irritant to the stomach, and has a peculiar effect on the brain, producing mental confusion, hallucination and slight delirium. In cases of an inflammatory nature, with acute symptoms, it is contra-indicated. In chronic cases accompanied with anasarca, and in the condition of the heart, which is generally associated with anæmia, and in which the tissue of the organ is enfeebled by defective nutrition, it is indicated in combination with iron, mineral acids and other tonics. An important incidental advantage in these cases, frequently, is its effects in removing the dropsical effusion, whether in the pericardium, the other serous cavities or the general areolar tissue. Dr. Potter has found it to act very favorably in palpitation, either from plethora, anæmia or merely nervous disorder; but the remedy is applicable only to the cases in which the affection has a certain degree of permanency, and not at all to those occasional and fugitive attacks which occur under passing excitements. Dr. Potter expresses his belief that if the profession will test the virtues of the Cactus, few would be willing to dispense with its use. He gave from one to five drops of the tincture three times a day, gradually increasing if necessary, until unequivocal symptoms of its operations are manifested."

It will be seen that Dr. Potter is a live sort of a man, having taken up this drug far in advance of many of the leading Eclectics; at least we should judge so from articles devoted to the same subject by Prof. John King, in the *Eclectic Dispensatory*, edition of 1870, and by Prof. John M. Scudder, in *Specific Medication*, edition of 1871.

Dr. E. H. Millington, of Hancock, N. Y., informs me that he has used *Cactus grandiflorus* very successfully in all cases of palpitation of the heart, giving it in doses of one drop of the tincture, frequently repeated.

Dr. John H. Fitch, of New Scotland, N. Y., tells me that he has used *Cactus grandiflorus* quite successfully as a diuretic, and his clini-

* We have already disproved this assertion, having full proof to the contrary in the shape of living specimen plants in our possession.—R. E. K.

cal observations, as well as provings of *Cereus grandiflorus*, and of other Cacti, will be embodied in this paper.

The Chemical analysis of Cereus grandiflorus, so far as we had leisure and the ability to continue investigations up to the time of writing this article, we find as follows: A large percentage of mucilage (gum), much oxalate of lime, oxalic and tartaric acid in small quantity, lignin, chlorophylle, starch and ashes. In arriving at this result we will subjoin the tests for each.

The juice of the stems of *Cereus grandiflorus* is a thick, viscid, transparent mucilage, yielding it readily to hot or cold water. Adding alcohol to the filtered infusion of the stems, a white opaque substance, gum, is separated, which is not soluble in alcohol, and therefore precipitated. This mucilage renders it a nutritious article of diet, which is demonstrated by other varieties of Cacti, such as serve our Indians for food, whenever a scarcity of other diet compels them to eat it. We find an analogy in the fact of Moors, Negroes and Hottentots, who, when gathering gum-arabic, live exclusively on gum during its period of collection.

The amount of oxalate of lime in *Cereus grandiflorus* is astonishingly large. It is in the form of crystals throughout the cellular substance, not only visible to the naked eye, but sensible also to the touch, whenever a section is cut from the stem.

In determining the presence of oxalate of lime, we washed out some of this calcareous substance from the green mature stems, and placing it in a test-tube adding hydrochloric acid to excess, it would dissolve it after heat having been applied, and hold it in solution on cooling. Thus, were it not for the fact of oxalic acid combining with lime in the Cactus, forming an insoluble salt of oxalate of lime (which is soluble only in muriatic and nitric acid), the juice of Cactus would be highly poisonous on account of the large amount of Oxalic Acid present, and an adequate idea may be had when it is known that Peruvian Cactus, *Cereus octangularis*, and Old Man Cactus, *Pilocereus*, synonyme, *Cactus senilis*, contain 85 per cent. of oxalate of lime. Oxalic acid has such a strong affinity for lime that whenever the acid and earth are brought together in solution, an insoluble precipitate of oxalate of lime is formed, and hence it is that the proper antidotes in poisoning with oxalic acid, are chalk and magnesia, forming inert oxalates therewith.

The acid reaction of *Cereus grandiflorus* is easily seen by holding litmus paper to the freshly cut surface of a piece of stem, which will redden litmus instantly. A hot infusion does not give such satisfactory result, because heat drives off the oxalic acid.

Its tincture is only very slightly acid. Oxalic acid is detected in this way. An infusion of this *Cereus* is placed in a test-tube, lime-water added, which, when oxalic acid is present, will yield a precipitate, insoluble in an excess of the same acid. We made further proofs of the presence of oxalic acid by causing a white precipitate of oxalate of lime with an infusion of *Cereus* and chloride of lime, known by the solubility of the precipitate in nitric acid. Also by causing a bluish white precipitate of oxalate of copper, by mixing an infusion of *Cereus* with sulphate of copper. And, lastly, by causing a dense white precipitate of oxalate of silver when adding nitrate of silver to an infusion of *Cereus*.

Tartaric acid was tested for and found by adding equal parts of lime-water to an infusion of *Cereus* in a test-tube, causing a whitish precipitate or cloudiness, which was re-dissolved by an excess of tartaric acid.

The presence of oxalic and tartaric acid in the juice of *Cereus grandiflorus*, and probably other varieties, makes it a refrigerant, the same as sorrel, and ought to be useful in scorbutic affections. The acid juice of *Cacti* in general is useful as a fomentation in inflammation. Their fruits when boiled are given in chest affections. Lignin is the woody fibre of the stems of *Cereus* and ashes are obtained by burning the same. Its ashes we have not yet analyzed.

Chlorophylle is the green coloring substance of the whole plant.

Starch is present in considerable quantity, and can be detected easily by putting a drop of tincture of iodine on the freshly cut surface of a piece of *Cereus*, when, if starch be present, it will strike a fine blue or violet color immediately, the result of the formation of iodide of starch. The pith of the woody portion of the *Cereus* will strike this color quicker than the cortical or leafy part.

At some future time we will report further progress in the composition of *Cereus grandiflorus*. The diuretic effect of *Cereus* is due, no doubt, to the mucilaginous principle, the same as in the marshmallow root, water-melon seed, etc.

CLINICAL RECORD OF CASES TREATED WITH *CEREUS* *GRANDIFLORUS*.

Georgiana McB., aged nine years, came to be treated March 9, 1869. Suffered from enlargement of the heart. Father died from organic disease of the heart a few years ago. Patient is of the sanguine-bilious temperament, white complexion, dark hair, and of unceasing activity during the day, while at night she would toss about in bed, keeping her mother awake most of the time. She had sharp pains, with throbbing and increased fulness in the cardiac region, especially so after taking unusual exercise, which she persisted in doing until pain constrained further efforts. Pulse 100-110 a minute. \mathcal{R} Tinct. *Cereus grandiflorus* gtts. x.; aqua \mathfrak{z} iv.; mix and take a tablespoonful every three hours.

Returned March 23d, feeling somewhat better, with less pain in cardiac region and a stronger pulse. \mathcal{R} Tinct. *Cereus grandiflorus* gtts. xx.; aqua \mathfrak{z} viii.; mix and take the same as before.

Reported progress April 6th, with a still more improved condition of leading symptoms, and had enjoyed better rest at night. \mathcal{R} Tinct. *Cereus grandif.*, aqua, aa. \mathfrak{z} i.; mix and take six drops every three hours; which treatment she continued for some weeks, with all her symptoms greatly ameliorating, until she removed from the neighborhood, and the case was lost sight of.

John F., aged 30 years, unmarried, presented himself July 9, 1869, suffering from irregular action of heart with palpitation. Driver by occupation, sandy complexion, muscular, and apparently of robust constitution. Complained of having had a bad feeling about the heart, amounting to fulness, a feeling of impending danger, so much so that he imagined himself fast approaching dissolution. He noticed first attack six months ago, getting worse all the while. At times a flutter-

ing feeling about the heart, followed by faintness, from which he would seek to recover by taking stimulants. Pulse, intermittent, 100 a minute. Bowels constipated. \mathcal{R} Tinct. *Cereus grandif.* 3 ii. Sig. ten drops in water three times a day. To regulate bowels, gave him podophyllin and leptandrin, reported to me in two days afterward with a pulse of 80, and feeling better in every other way. Continued treatment, and meeting this patient eighteen months thereafter, he stated that he had enjoyed good health ever since.

Miss Mary J., of this city, aged sixteen years, came for treatment, October 25, 1871. Mother had died from heart disease. Could not tell exactly the direct cause of her death. She has suffered from a similar affection of the heart for three years. Complains of sharp pains in cardiac region five or six times a day. Pulse feeble. Auscultation revealed irregularity of heart's action. Has had nausea of stomach once or twice a day regularly for last two years. Appetite good. Bowels regular. Constitution rather delicate. Person not well developed. Amenorrhœa — never menstruated. I prescribed :

\mathcal{R} Tinct. *Cereus grandiflorus*, 3 ii. ; take ten drops four times a day. For amenorrhœa gave *Caulophyllum*, *Mitchella* and *Helonias*.

Nov. 1. Had no more nausea or vomiting for the last three days. Was also taken with a severe attack of epistaxis, recurring slightly the day previous. Gave her :

\mathcal{R} Tinct. *Cereus grandiflorus*, 3 iv. ; take twenty drops four times a day. Also continue uterine tonics.

Feb. 20. Had felt pretty well up to the present time. Complains again of cardiac pains. Also renewed attacks of nausea. No menstruation yet. Gave :

\mathcal{R} Tinct. *Cereus grandiflorus*, 3 iv. ; take twenty drops as before, and continue the other treatment.

Feb. 28. Heart symptoms all gone. No more nausea. Menstruation still absent. Continue same treatment.

March 6. Increased cardiac pains, but feels well in other respects. No sign of menstruating. Continue *Cereus grandiflorus* for heart symptoms. For amenorrhœa gave her *Senecio* and *Cimicifuga*.

March 13. No more distress in cardiac region, and her health, with the exception that she has not menstruated, first rate. She so continued for several months thereafter, until the case was lost sight of.

In order to test the properties of *Cereus grandiflorus* effectually it is self-evident that no other remedies should be given with it, if complications do not present themselves, demanding auxiliary treatment. We have succeeded always in curing palpitation of the heart with it, when not associated with dyspepsia. Dr. M. M. Fenner, of Fredonia, N. Y., had used it in irritation of the cardiac nerves as long ago as 1866.*

The following cases in practice were treated by John H. Fitch, M. D., during the summer of 1874.

Case of Hæmorrhoids. — Mrs. A. McM. had suffered from very painful and swollen hæmorrhoids since her recent confinement. Says she has always been thus afflicted after each confinement. On examination find much swelling and œdema. Cannot bear to be touched. Local applications of various kinds have been used in vain, as also internal treatment judged to be applicable to the case. Gave tincture *Cereus*

* See *American Eclectic Medical Review*, Vol. III., page 111, Sept. 1867.

grandiflorus, sixth potency, with very prompt and happy effect in relieving the pain and objective symptoms.

Case II. Renal Calculi. — Mrs. P., age 67, has suffered about three days from bilious vomiting, and renal colic, caused by the passage of uric acid from the kidneys, or more especially the left kidney, as this is the side on which she experienced the severe urgent pain, and along the course of the ureter to the bladder on the same side. The urinary secretion was suppressed, three days after which there was some relief of the vomiting; but experiences pain. Used hot applications, which gave some relief when kept constantly in contact with the seat of the pain.

On the fourth day, or night of the third, passage of urine loaded with blood, and a large quantity of uric acid crystals reddening the floor of the vessel, and feeling like a coating of fine sand, when the finger was passed upon the sediment. Pain still complained of. Gave tincture *Cereus grandiflorus* five drops every hour or two. In two or three days the patient was entirely relieved.

The following is a case of much interest on account of the variety of treatment previously used — pretty constantly with no very decided results, and the marked and noticeable effect perceived after taking the *Cereus grandiflorus*.

Case III. — Mrs. E. A. F.; of the bilious temperament, has suffered for several years with deficiency in the urinary secretion, accompanied with pains in the lower limbs (neuralgic); cold feet and œdema of the lower limbs, accompanied at intervals with a painful feeling of distension; with at times a very considerable enlargement of the abdomen. Has been indefatigable in her efforts for relief through the channels of the various schools of medicine; although it must be admitted she has been a little too impatient to see results very soon after taking the medicine. Diuretics would temporarily relieve. Tonics, except the mildest, could not be borne, and cathartics would occasion the same amount of loss by debility, thus compensating for the gain of relieving the system of retained excreta. Careful examination showed no organic change or affection of the kidney. Gave three-drop doses of tincture *Cereus grandiflorus*, with steady and apparently permanent relief. The patient is still taking the medicine, and shows no diminution in the improvement first noticed. The tincture used I had obtained for trial from Dr. R. E. Kunzé of New York.

PROPERTIES OF *CEREUS BONPLANDII* (PARMET).

This variety of the Night-blooming *Cereus*, which is one of the hardest under cultivation, is quite a distinct variety, in that its stems are generally square, less frequently five-angled, and but slightly ribbed. A strong grower, and less liable to rot.

This Night-blooming *Cereus* which we were the first to introduce to the profession as a remedial agent of great merit was brought to our notice while establishing the identity of the previous species. It stands unrivaled in the influence it exerts in functional as well as organic diseases of the heart. The irregular pulse is readily controlled by this drug, as well as palpitation, and that dreadful feeling of impending danger we so often meet with in angina pectoris and excited action of the heart.

In its curative range it covers a wide field, and from observations made by Dr. John H. Fitch, who so kindly made provings upon himself, since we took it in hand and had experimented with it successfully in angina pectoris, it has been substantiated beyond a doubt, that it is a curative agent of great merit not only in diseases of the heart, but also in rheumatic affections of the muscles and articulations. In some cases under the treatment of Dr. Fitch—one in particular being organic stenosis of the left heart, with a nearly useless condition of the aortic valves—it gave marked relief by keeping the patient comfortable while taking the drug. Dr. S. J. Birch of Albany, informs me that he has succeeded in curing a case of muscular rheumatism with *Cereus Bonplandii* alone, which the alkaline treatment would not even relieve.

The effect medicinally of *Cereus Bonplandii* seems to be first and principally on the nervous system. The brain and cerebro-spinal axis are brought under its influence readily; and particularly the cardiac nerves, and nerves distributed to the respiratory system. These and the morbid effects produced upon the digestive apparatus, as well as the other secretory and eliminating organs, the kidneys, skin, etc., are due to its effect upon the great sympathetic. From the proving made by Dr. Fitch, this drug is known to possess active diuretic properties and to be valuable in dropsical effusions. Diminishing the frequency of the pulse in nervous disorders, and changing the intermittent character of the same, entitles it to rank as a nerve-sedative. We prepare a saturated tincture, made of the mature stems, without any flowers, and let it macerate four weeks.

In physical properties it resembles the *Cereus grandiflorus* very much, and we only regret not being able to give the chemical analysis in this paper simultaneously with the proving made by Dr. Fitch.

In two cases of angina pectoris, uncomplicated with ossification of the coronary arteries, we have used it with marked relief and present the following clinical record:

Mr. George R. W., of Ridgewood, L. I., called on me for treatment July 8th, 1872, suffering from angina pectoris. Age, twenty-three, of encephalo-bilious temperament. Had been more or less troubled with palpitation of the heart since ten years of age, and in delicate health always. After retiring for the night, palpitation increased with a gurgling sound at the apex and base of the heart, resembling gas and water passing to and fro. For years afterward any severe exercise would bring on palpitation. During winter he would be free from such attacks for two or three months at a time, but in the summer for not more than two or three days. He was a carpenter by trade, and had been married two years and a half. The first attack of angina occurred five weeks ago and lasted three days. On the first day the paroxysm came on every hour; the second day every hour and a half; and on the third day only three or four times. Has had no more palpitation at night since that time, and slept well. On the 29th of June was overcome by the heat and has been very despondent ever since. Had severe pain in the cardiac region; a dreadful feeling of impending danger constantly; and complained also of sharp pains in the right pleura. We gave him first some *Asclepias tuberosa* which overcame the pleuritic symptoms in three days. He was then given the following: \mathcal{R} Tinet. *Cereus Bonplandii*, 3 ii.

Sig: twenty drops three times a day.

He took it without any water and stated that it went all through his body ; diffusing itself like electricity, leaving a tiresome feeling in the bones. After the first dose, had not experienced another attack of either angina pectoris, or palpitation. Reported again July 20th, feeling entirely relieved of all unpleasant symptoms. To prevent a relapse of the same gave him :

℞ Tinct. *Cereus Bonplandii* 3 ii.

Sig : ten drops three times a day.

Had not experienced any further difficulty in ten months thereafter. He stated that his mother had been affected with rheumatism of the heart, since she had been married. An uncle of his mother had died of heart disease ; and her own brother died very suddenly in bed from the same cause. Her father died of palsy. The medicine in this case acted like a charm, and nothing else was used, excepting *Asclepias tuberosa* at the beginning. The heart-symptoms were so strongly marked and the action of this drug so equaled the emergency, that in our mind there is no doubt of its being a true nerve-sedative.

Mr. Alfred C. R., of this city, presented himself for treatment, December 29th, 1872. Age thirty-eight ; of the sanguine-encephalobilious temperament, and a cutter by trade. He was suffering from angina pectoris, having had two attacks in a month. He used ardent spirits moderately and lager beer very regularly with his meals—never to excess. This first attack of angina pectoris happened in church four weeks previously and lasted ten minutes, almost resulting in syncope. It commenced with a feeling of impending danger, followed by intense excitement, a difficult respiration, death-like countenance, and the heart seemingly tightened or squeezed. Also a choking sensation in the præcordial region. After the attack he had more or less apprehension all the time, even while at work. Nights restless and uneasy—afraid to go to sleep. The second attack occurred the evening previous while at supper ; for which he had taken some compound spirits of lavender, followed by temporary relief. He became very nervous, frightened, losing all control over himself and passed an apprehensive night. On auscultation found the heart to labor excitedly, yet without any adventitious sound. The pulse was intermittent, full and hard in its rhythm, 100 beats per minute. We prescribed :

℞ Tinct. *Cereus Bonplandii* 3 iv.

Sig : twenty drops three times a day.

Immediately after taking it, felt a warming, pleasant sensation, with a glow of heat on the surface, and followed by speedy relief. The next day his pulse fell to 80 beats per minute, soft, full and regular. Continued to take all of the medicine in the same way, while there seemed to be no urgent need for any more after the third day of treatment. Has not been afflicted with a similar attack since, enjoying as good health as ever.

The next case is one of such unusual interest, that we cannot refrain from mentioning it in our article on the curative powers of *Cereus Bonplandii*. A piece of the same plant, formerly owned by Mr. Wm. Baker of this city, and now in possession of the writer, having been given to Dr. R. L. Newbery, Surgeon-Dentist of this city, this gentleman prepared a tincture from it, and obtained the following result, which we are permitted to refer to through the kindness of Dr. Newbery. Prof. Thomas C. Upham, holding at the time the Chair of

Mental and Moral Philosophy in Bowdoin College, of Brunswick, Maine, put himself under the treatment of Dr. Newbery for blindness; having come on to New York for the special purpose of having the services of the doctor, four years ago this fall. Prof. Upham, then in his eightieth year, and of the nervous temperament, gave the history of his case substantially as follows: A day or two previous he was taken in the middle of the night with pain and a gone feeling in his eyes. Told his wife that he believed himself to be blind; got a light and found himself nearly blind. In the morning could only see out of the left eye. Transparent part of both eyes next morning partially opaque and slightly yellow. Corners of both eyes blood-shot. Could bear very strong light. Could not distinguish eight-inch black letters on white ground at fifteen inches distance from eyes. Had always worn near-sighted spectacles. Had slight chronic redness of the edges of eyelids — tarsal cartilages — for which latter the doctor gave him *Rumex crispus*, fourth attenuation. He was taken before Prof. Agnew of the Manhattan Eye and Ear Hospital in East 34th street, who pronounced it paralysis of the retina, and predicted that he would be blind forever. On the second day after arrival, the eye was more transparent. Constipated habitually, for which gave Opium in the evening and Nux in the morning of the second day. Relieved of constipation on third day. Gave him third dilution of Tinct. Cactus (variety *Cereus Bonplandii*) in one-drop doses on the third day, three times daily. Continued treatment with *C. Bonplandii* for three days. On the sixth day of treatment could see large objects 24 inches distant. For constipation gave Opium and Nux again. In four days returned, could see objects 36 inches distant. Bowels all right, and felt in good state of health. Continued same treatment with *C. Bonplandii* for the next two weeks, when he returned, saying that he was quite well and could see as well as ever. Needed no more medicine. On last call could see and criticise pictures on opposite wall, fifteen feet distant. He continued in good health for one whole year afterward, when he died.

PROVING

Of Cereus Grandiflorus, Synonyme, Cactus Grandiflorus, or Night-Blooming Cereus, by John H. Fitch, M. D., of New Scotland, N. Y.

Prover of the bilious-encephalic temperament, age 36, unmarried, and in not over-robust health. Commenced proving July 29, 1873, at 8 o'clock, P. M.; took seven minims tinct. *Cereus grandif.* Immediately felt an accumulation of mucus in the throat, which was expectorated. In about a quarter of an hour, sensation of having swallowed something unpleasant. About 9 P. M., for some minutes a soapy taste in the mouth. For a moment, just before going to my room to retire, a slight drawing sensation in the region of the heart. On retiring to my room felt some unsteadiness of gait, almost amounting to staggering, a reeling sensation. After retiring, and before going to sleep, a drawing pain for ten or fifteen minutes in the left axilla and neighboring portion of the chest anteriorly affecting the nerves. Slept well.

July 30. Awoke feeling refreshed; in fact better than usual. At breakfast appetite better than usual. No symptoms until about 9 o'clock; sensation of a slimy, weedy taste was then experienced, not so

distinctly soapy as last night. Sensation of something disagreeable at the stomach. 9:45, A. M., took eight minims tinct. *Cereus grandif.* No symptoms observed. 12 o'clock, M., took twelve minims tinct. *Cereus grandif.* Had dinner immediately thereafter. 2:15, P. M., took eighteen minims tinct. *Cereus grandif.* No very marked symptoms during the rest of the day, except that in the evening the muscles did not accurately obey the will, either owing to defective vision or other causes. Had noticeable ill luck in performing accurately what I undertook in any thing requiring precision, either on account of imperfect sight or execution. Played a game of croquet very badly. In the evening a weedy, slimy taste. Decided repugnance to take any more medicine. At night sensation as if the brain was attached to the skull, grown fast. For a moment pain in the nerves, running from the left axilla to the pectoral region adjoining.

July 31. Called up on professional business at 6, A. M. Had with difficulty a hard stool; afterwards a discharge of fluid blood from the anus, which continued to drop a moment or two. 12:30, P. M., dinner. 12:45, took twenty minims tinct. *Cereus grandif.* No symptoms during afternoon.

Just before retiring, slight priapismal symptoms. On retiring, felt some heaviness and pain, not severe, however, affecting the posterior region of the brain, increased by lying on the back with the head touching the pillow. Instantly relieved by lying on the side, so that occipital portion of the skull did not come in contact with any thing hard or otherwise.

August 1. Awoke, feeling splendidly. Took twelve minims tinct. *Cereus grandif.* at about 7, A. M. Ate breakfast at about 10:30, A. M. Stool followed by blood from the piles. Was affected with impulses to do something facetious, which was repelled. Took some exercise, felt at times pressure in the occiput, not severe, and relieved by quick exercise or mental activity. Disposition to do deliberately whatever was undertaken. Impulses to do something bordering on the grotesque. Felt a considerable degree of difficulty in feeling upon any thing I was pursuing settled or fixed; when conclusions were arrived at, however, they were to the mind quite satisfactory. Took twelve minims tinct. *Cereus grandif.* at 12:20, P. M., and half an hour later took five minims more. No symptoms. 4 P. M., took 195 drops tinct. *Cereus grandif.* Passed immediately about half a pint of urine, having the odor of freshly-drawn green tea. For the rest of the day felt decided impulses to swallow large and unwholesome potions of medicine. Toward evening, priapisms. Feeling of semi-remorse at having done something wrong. Feeling of having done violence to myself. Retired in good season. Felt rather drowsy. Stretched myself on the bed; was soon asleep.

August 2. In the morning found myself lying with my clothes on. At about daylight undressed myself and went to sleep. Had an erotic dream, with emission of semen. Awoke and dressed myself. Attended to my business as usual.

August 3. Was called up early to visit a patient eight miles away. Felt well; no unusual symptoms. At about 12 M., a copious seminal emission after strong sexual desire. Was out visiting my patients the most of the day. Slept well every night during the whole time of the proving. Appetite also was good, better than usual. I noticed

a tendency to congestion to the urino-genital system early in the proving. A redness at the orifice of the urethra. Also, in one or two instances, strong sexual desire with priapisms. No heart-symptoms were felt during the entire proving. During the early part of this proving, felt a tendency to constipation, with hard stools and bleeding piles; the bleeding after stools. After the second or third day this passed into a more loose condition of the bowels, mushy stools, and felt no more of the piles. On the third day, a soreness with distension of the abdomen.

I do not know why I felt no heart-symptoms,* except that I had felt for a few days a short interval, just preceding the partial proving, a constant feeling of weight over the region of the heart, relieved by a deep inspiration, and returning the moment the chest was expanded. If the drug was curative to this symptom, possibly the circumstance that no heart-symptoms were noticed, is accounted for. The tincture of *Cactus* which I used in this proving had been obtained from Dr. H. M. Paine, who has been supplying homœopathic remedies to members of that faith and practice in the vicinity of Albany.

PROVING

Of Cereus Bonplandii or White Grandiflora, Queen of the Night, a variety of Night-blooming Cereus, by John H. Fitch, M. D., of New Scotland, N. Y.

Age 37 years, unmarried and in excellent health and good spirits. Commenced proving July 29th, 1874; at 2:15 p. m., took 12 minims of tinct. *Cereus Bonplandii*, made by Dr. R. E. Kunzé, of 606 Third Avenue, New York. In ten minutes felt sensation of pain of a boring nature, extending from the left frontal region, deeper and backward. Saliva in the mouth. Sensation of a pressing feeling in the right forehead. Pain extending through the forehead, left side to the occiput. Felt a feeling as if the head were suspended from some support under the skull and base of the brain. Felt a slight griping accompanied by the beginning of a soreness extending through the region of the whole portal circulation; 9 p. m., copious and urgent evacuation from the bowels. Felt very well afterward. 9:45 p. m., took six minims tinct. *Cereus Bonplandii*. Followed by slight griping. Saliva in the mouth. Sensation of a slight burning feeling extending backward from the right forehead. Slept soundly. Did not hear any thing of a heavy shower that came on in the night.

July 30. 8:40, A. M., took three minims tinct. *Cereus Bonplandii*. Reluctance to take medicine. Felt all day an astonishing inclination to be engaged in something useful. Felt for two days, more on second day, intolerable itching over the whole surface of the body. On the third day it was perfectly unbearable. After annoying me much, it gradually left me. There were pustules on the body, more on the nates and gluteal region. I noticed for several days a dull heaviness

* I remember that before commencing the proving, I experienced, for a short time, this symptom, "pain at the heart relieved by deep inspiration." If the action of the drug was expended or absorbed in my system curatively, then the theory is explained.

to my steps. Each night seemed to be under the influence of something powerful.

August 10. 9 P. M., took six minims tinct. *Cereus Bonplandii*. Immediately a slight desire to pass urine was noticed, lasting for a minute. Felt a decidedly painful drawing sensation in the occipital region, soon subsiding. Momentarily a painful stunning sensation in the right side of the os frontis. Light rumbling in the left side of the abdomen. Mucus adherent to the roof of the mouth, cleared by a single effort. Sensation of saliva in the mouth, which is swallowed — of no particular taste. Water in the mouth. Slight desire to evacuate bowels. On walking out, descending one or two steps had a severe pain, forcing from without inwards in the occiput on a line with the sagittal suture. Effort to evacuate bowels nearly or quite ineffectual. Late at night, but not sleepy. Experienced an agreeably tranquil frame of mind and body. Desire to engage at work.

August 11. 8 A. M., took twelve minims tinct. *Cereus Bonplandii*. Felt a sensation of coldness, and a metallic taste in the mouth. Slight pressive sensation in the right occiput from behind, forward. Clearing the throat of mucus. Clearing the larynx of mucus. Felt a desire to be engaged in useful work, desire to have the time all employed. Dislodge greenish discharges from the right nares, similar discharge in less quantity from the left. Mucus in the throat, a persistent symptom early in the proving, and quantity abundant. Mucus of a pale greenish color, sometimes colorless, or nearly so. It was from the throat, mainly, pharynx and top of the larynx. Mucus from the nose as in catarrh. Tired feeling in both arms. Disagreeable feeling in the back of the head, seeming to pass down over the neck and terminate in a disagreeable sensation, an approach to qualmishness at the stomach. Sneezing, foetid flatus passed from the bowels. Dry eructations from the stomach. Alkaline taste. Stinging in the nose, worse on the right side; watery sensation, not disagreeable, in the mouth, thirstlessness. Pain above the right eye, passing down over the globe of the eye. Taste of green vegetables. Stinging in the right nostril. Slight uneasiness felt in the throat verging to the stomach, with simultaneous congested sensation in both eyes. Sore feeling in eyes as if pained by strong sunlight. Slight heavy feeling in the top of forehead. Praying or disposition to pray. Slight sensation of pain in the epigastrium, at intervals, coming and going in short paroxysms. Headache affecting occiput for quarter of an hour, yawning, hardened mucus from the left nostril. Urine passed of a slight brownish tinge, scanty and smelling strongly after a few minutes. Deep inspiration, as if tired, accompanied with no fatigue. Chest feels pained or oppressed. Ill at ease, restless. Do not know what to do with myself. Sensation as of a board bound to the back of the head, more plainly on the left side; head felt drawn to the left backward. Desire to be busy. 1 P. M., took six minims. Pain in the occiput, running through to the lobes of the cerebrum. Pain in the orbits, pressive, from before backward. Pain through the ear and head, commencing at a point at the back of the left ear and running upward and forward diagonally in the direction of the opposite ear and right parietal bone. Slightly painful sensation in the left chest in the region of the heart. Deep inspiration. 2 P. M., passed urine, less than half the usual quantity, and yellowish. At intervals deep inspiration as if the chest were laboring under the effect

of some indefinable oppression. Slight feeling of oppression. Weakness of the chest with deep inspiration. Slight painful feeling at epigastrium. Mucus in throat, taste watery, a relish for sweet things. Left eyelid slightly painful when the head is bent to the floor. Tendency to automatically expand the chest (this recurs as a symptom very frequently). The chest expands itself seemingly to its utmost capacity, in an instant collapsing to be repeated. Pain in the upper portion of the spine and medulla oblongata, running upward and expanding through the brain to near its surface, especially on stooping or bending the head forward as in bowing or kneeling. Pain across the anterior lobes of the brain just behind the os frontis. Left to right drawing pain of right index finger affecting the bone. Pain in both upper arms. Pain running across the inner side of left arm, felt in the bend of the elbow after subsiding elsewhere. Feeling of being pressed at the left occiput, and immediately afterward a counter pain on the left side of the forehead, the latter continuing a moment or two. Sensation of uneasiness extended to the back as far as lumbar region on taking frequent heavy respiration above described. Pain verging around and along left parietal bone from the left occiput. Pain in left shoulder like that produced by carrying a heavy weight. Pain running along the back down to the arms. Sensation of a thread of mucus on the tongue. Taste watery. Pain in the right knee. 4 P. M., urinated. Respiration is measured; no interval between inspiration and expiration. Slight pain of sticking character in the region of the right kidney. Pain long continued in left kidney as from renal calculus. Pain in the left groin sharp and cutting as from impacted calculus in the ureter. 9:30 P. M., took 6 minims tinct. *Cerens Bonplandii*. Painful sensation in the sides of the neck, worse on left side and longer continued. Pain behind the mastoid process, left side, extending backward and upward. Pain extending along the external angular process of frontal bone right side. Felt a desire to give something quite necessary to myself, to another. Went to bed feeling miserably. Slept all night without undressing, as I had thrown myself down and fallen asleep.

August 12. Arose feeling irritable. Head feels badly. Ate a light breakfast. Went out a little before 6 A. M. Passed stool, not easy nor sufficient. 8 A. M., took some light exercise; muscular condition good. 9:15 A. M., feel a little better. Slight pain in right kidney; sticking pain in the right ureter. Feel rather better. Slight pricking pain at the heart. Pain through right shoulder blade, through right hip and again in right kidney. Pain along the outer side of the right upper arm while writing; in left ulna with numbness. Itching of the nose. Great fit of yawning. Pain along the inner side of right upper arm. Dull pain in the left elbow and forearm. Itching in various parts of the body. Pain in the first metacarpal bone of right hand. Quite severe sticking pain in right kidney. Pain with numbness of right arm when writing. 9:30 A. M., took twelve minims tinct. *Cerens Bonplandii*. Passed urine. Pain in metacarpo-phalangeal joints of right hand. Pain along right malar bone, running to temple, through to occiput. Watery mouth with some shade of insipidness. Clearing of the hard palate of mucus. Feel malaise, half sick. Difficult to keep employed. Drowsiness on closing the eyes. Perception of a cluster of orange-colored spots, round-shaped and symmetrical. Drawing sensa-

tion from the end of the thumb of right hand upward, seems as if sprained. Pain quite constant. Painful feeling in dorsal vertebræ. On rising up from a kneeling posture, dizziness comes over one followed by sickness at stomach, continuing for some little time. Very irritable. 3:15 P. M., took twelve minims. Very much disturbed in mind. Feel fatigued on riding, especially in the lumbar region. 9:30 P. M., took three minims. Not very pleasant in mind. Feel pain in right kidney; sore to pressure. Pain in right forehead. Soreness and lameness in right forearm above wrist, considerable in flexor muscles of right arm on contact. "Feeling as if the heart were transfixed by a blunt instrument, as on a bolt."

August 13. Very dull all morning; pass the time in a listless manner. Fetid breath noticed by self (subjective symptom). Pain on ulnar side of the left carpo — metacarpal joint. Pain on outer border of elbow joint, left arm, back of and at left shoulder joint; sighing respiration. 4:30 P. M., took six minims tinct. *Cerens Bonplandii*. 10 P. M., pain with lameness in left little finger. Pain in arm posteriorly, over ulna, above wrist. Tenderness on pressure along the spines of all the cervical and the three or four upper dorsal vertebræ. Tenderness of the flexor muscles of both arms (upper). 11 P. M., not sleepy, mind disturbed. Tenderness over ribs, left side anteriorly just below the heart. Deep inspiration. Painful sensation in the anterior lobes of the cerebrum, extended from the frontal bone backward. Pain through the globe of left eye and orbit. Tenderness at supraorbital notch. Feel very uncomfortable; do not know what to do with myself.

August 14. 6 A. M., pass a small quantity of yellowish saturated urine. Very irritable; act from impulse. Allowed the time to pass until 12 M., unoccupied in any thing of importance. 1 P. M., took 30 minims tinct. *Cerens Bonplandii*. 2 P. M., took 15 minims. 3 P. M., pain in right ring finger. 6:20 P. M., pain in left ring finger returning. Pain on inner side of left knee. Pain in right trochanter. Pain in last joint of left index finger. Pain in left kidney. Pain on inner side of left knee, low down. Pain on dorsum of right hand; in left forearm. Pain in both arms followed by pain in chest. Pain in both knees — left little finger. Pain in back of left wrist running to forearm. Pain in muscles of the back of the forearm; in the muscles of the arm above the elbow anteriorly. Sighing respiration (noticed many times); pain in chest, left side and through the heart, flanked by a painful sensation at and toward the spleen, the latter momentary, the former continuing, especially that at the heart. Pain in left great pectoral muscle, more aggravated toward the tendon of the lesser pectoral and at coracoid process. Pain in both knees on rising; pain in the occiput, high up on the head. In the coracoid of the right shoulder as well as in the hamstring tendons of left thigh there was pain. So also in last phalanx of left index finger. On divesting one's self of outer garments, experience coughing. Breath fetid; noticed by others. Pain in the right little finger; somewhat persistent pain in the cartilages of the left lower false ribs. Slept pretty well; disturbed by dreams of a dog and a fracas very exciting to the nerves.

August 15. Awoke before 5 A. M., looked somewhat haggard; experienced the long, deep, uneasy respiration of previous days, but more intensified, before rising. Thorax acts automatically, not in accord-

ance with one's whim. Chest feels empty. Pain at heart. Rose 5 A. M. A little before 6 A. M., counted pulse for one minute; found several dicrotic beats and intermissions in that time. Went out, passed a natural stool. Deep inspiration and expiration; chest is emptied quickly. Sensation of a great stone laid upon the heart; soon after sensation as if the chest was broken out just in front of the heart. On combing the hair, find it falls out in considerable quantities. Pustule on the lip near the left ala of the nose. Pain at a spot in the muscles of the back midway between the left scapula and sacrum. 12 M., took five minims tinct. *Cereus Bonplandii*. Pain through the globe of the right eye. Pain in right hip and head of right thigh bone. Somewhat painful sensation in globe of left eye; swimming of the head. It is noticed by a professional friend that there are the following objective symptoms: "Swimming eyes," "a little capillary congestion of the conjunctiva," tongue "feathery," too red to be natural, "a deep, purplish hue is present over the whole tongue." Feel headache, occipital pain. The hue of the countenance is yellowish. Tongue feeling rough. 3 P. M., urination; feel rather relieved. Pain in right ring finger, right wrist. Pain in right patella; difficult to touch without considerable pain on pressure with the hand. Pain on the left side of the neck. Feel worse from the pressure of clothing; desire to be dissolved, especially the trunk. Pain in the metacarpal bone of thumb and contiguous bone of right hand. Dorsal region feels lame on stooping. Pain in right scapula. Lameness in dorsum of left hand. Passed urine at 10:15 P. M., normal quantity. Stool at 10:30. Feel better on disrobing for the night. 11 P. M., drowsiness; waked with slight sexual desire. Pass a small quantity of clear urine. Feel well. Pain in the neck on the left side above and along the clavicle. Pain above the right external malleolus. Itching, quite severe, with roughness of the skin in the right popliteal space. Full of dreams of large assemblies of persons, and things relating to scenes forgotten for years. Redreamed old dreams in part or whole.

Sunday, Aug. 16. Arose at 8:30 A. M. Early in the afternoon noticed a feeling of flabbiness in the genitalia, which felt small. Felt pain in the knees and ankles—dorsa of the feet. Felt a compressed feeling from the sacrum down through the limbs terminating at the heels. Felt weary; sighing respiration. 8 P. M., attended church; apathetic. Could not fix the mind on devotional exercises, effort being strong. A grateful feeling of dependence on a divine spirit was experienced. Voice sounds dim. At night, when retired, felt severe convulsive pains at the heart; severe agonized pain for several hours, which returns toward morning. During the night slept but little.

August 17. Same feeling in regard to testicles and sexual organs. Priapism in the presence of the opposite sex. Severe occipital headache. Accumulation of mucus in both nostrils. Feel like one recovering from a cold.

August 18. Deep colored urine. Eruption of pustules is "drying up." Itching on the sole of the left foot. Faint feeling, followed by nausea, on rising. Feel the effect of an incubus weighing me down, affecting more particularly the nervous system. Lower extremities have a prickling feeling when kneeled or flexed.

August 19. Rose suffering severe pain in the eyes. Great sensitiveness to the impulse of light all day (photophobia). Time passed very

slowly. Feel that I am sick. Itching of the right popliteal space. Appetite returning. No feeling at sexual organ. Anæsthesia of the genital organs.

August 21. Sore feeling at the eyes; heavy feeling at the eyes as in cephalic catarrh. Haggard look. Strong light painful to the eyes. Clearing of mucus from throat. Headache, sighing respiration, weak feeling and pressure at the heart on reading or thinking consecutively. Pulse a little irregular just after dinner.

GENERALITY.

When mental symptoms subside corporeal ones are aggravated, and conversely. All along felt strong desire to antidote the very powerful effect of the drug on the heart and the nervous system. Could with difficulty at times restrain the desire to take medicine for that purpose. While taking the medicine I lost in weight seven and one-half pounds, which I did not regain for some weeks.

DURATION OF ITS EFFECTS.

The effect on the brain and nervous system passed off in four or five days principally.

The symptoms affecting the heart and chest were mainly gone in ten days after taking the medicine. Some symptoms being noted longer, as sighing respiration. The effect on the generative functions in about the same time.

Muscular pains were mainly gone in a few days, although echoes of the morbid symptoms were perceptible slightly after four or five weeks had elapsed.

The itching of the sole of the left foot perfectly aggravating (much more severe than that symptom on the ninth day), on the eighth week, in fact as troublesome and presenting as severe objective symptoms as any chilblain. Itching of the skin of the right popliteal space returns many times after concluding the proving, and is very noticeable almost every day of the ninth week.

REMARKS.

I am now treating a case of retinitis, with nearly entire blindness, complicated with a rheumatic condition verging to paralysis, with *Cereus Bonplandii*, with happy results. It is a chronic trouble and I commenced with a higher potency than usual. Some of the symptoms of this drug and disease reasonably correspond.

A case of heart disease, affecting the right heart, pulmonary circulation, etc., with the most distressing symptoms, which prevailed the last ten days of her life, was relieved of all its severity after giving this drug, notwithstanding Dr. Swinburne, of Albany, had failed to do so.

PROVING

Of Opuntia albaspinia or White-spined Prickly-Pear Cactus, by John H. Fitch, M. D.

October 7, 1874, 6:30 P. M., took 10 minims tinct. Opuntia albaspinia, made by Dr. R. E. Kunzé, of New York. Horripilation at swallowing.

In a few minutes desire to be at prayer, go there, and in a minute or two desire to go out and "tidy" up. Soon thereafter went out on an errand down stairs, then come up and go again to prayer. 7:40 P. M., urgent desire to stool, evacuation rather loose, pain through the spleen and heart, pain in the left arm just below the elbow, palmar aspect, sticking pain through the heart. 11:45 P. M., took one dram tinct. *Opuntia albaspinosa*; pain in the right testicle; priapism with lascivious desire.

October 8, 8 A. M., took one dram tinct. *Opuntia albaspinosa*; heaved single respiration. 9:25 A. M., oppression in the chest relieved by a single heaving respiration. 9:45 A. M., single violent chest-heave to the respiration producing an agreeable feeling at chest; pain in head of left fibula; pain at the proximal end of the first and second metacarpal bones of left hand; pain in muscles on the inner side of left leg. At night dreams of women.

October 9. Fit of swearing at evening after coming home. Praying in the morning, swearing on disappointment in plans. Fit of rage at 6 P. M. on thwarting of plans. 6:20 P. M., took one dram tinct. *Opuntia albaspinosa*. Sensation that the head is transfixed with a lance or spear. Urine free. Bowels move oftener than natural. Appetite good. Throat feels sore in afternoon, choked or pinching feeling around the top of the larynx. Saliva in the mouth. Heaved respiration, which does not give relief of chest oppression.

October 10, 12:25 P. M., pain in muscles of the neck left side anteriorly. Pain in the muscles of the right side of the neck, below ear, momentarily on the right side anteriorly of the neck. Pain and ache on both sides of the neck below ears, coming and going. Saliva in the mouth. 6 P. M., took one dram tinct. *Opuntia albaspinosa*.

October 11. Pale at face. Appetite not first-rate at breakfast. Restricted at dinner. Headache of rather a mild form. A tensive feeling at the brain. Bad feeling involving the nervous system.

October 12. Appetite good. Neglect business all day. At evening stool, at first easy, afterwards hard.

October 13. Urging to stool in the morning. Stool soft but difficult. Lazy. Diffident in transacting business. Great raising of mucus (phlegm from the throat) at 4 P. M. Nervous at night.

October 14. Bloatingness at the abdomen. Urine increased all day in quantity, not in frequency. Afternoon, fit of petulance, angry at near relatives. Swearing mood, not at all pleased. Cannot get over the thought of injuries done by friends. Very cold and chilly (the day is cold and weather changing), considerable mucus from the throat. Slight bloody mucus discharge from the left nostril. Bite the inside of the cheek in evening on right side. Cold feet, the teeth appear sensitive (I may have taken a little cold). The mind appears to be much affected and does not appreciate its morbid condition. Much tempted to do things one should not do. 4 P. M., loose stool, urine increased in frequency, much more copious. Have had for a few days an eruption of tubercles on the neck, just back of the left ear and covering the mastoid process. Omit the first letter of a word in writing. Sometimes transfer the first and second letters, making the second first and the first second. Eruption about ear, bleeds freely. Cold feeling with ache at the neck just below the ear in the sterno-mastoid muscles near their insertion. Petulance and desire to

be at work ; very irritable, cannot stand the least trifle. Transpose in writing the two final letters of a word, unless write very slowly. Tea tastes very insipid (it is not very strong), yesterday strong tea was very agreeable. Omit the first letter of the last syllable of a compound word. Respiration with a slight heave of the chest, followed by less marked heaving respiration, gradually becoming quieted and natural. Still chest feels ill at ease. Involuntary blasphemous mood. Atrophied appearance of the external genital organs. In straining at stool, varicose veins on left side enlarge very greatly. Evacuations smell like strong drugs. After kneeling or resting on lower limbs, the latter become numb with tingling and pricking. Left nostril discharges on picking, a little blood and watery phlegm. Cold feet, feel chilly in a warm room. Arranged one of the drawers of my desk. After kneeling, lower limbs asleep, immovable. (This is a two days old symptom.) Cold strikes straight through the chest, upper portion. No pain experienced about the head, but the mind aberrations. Not entirely conscious of the full extent of mental vagrancy.

October 15. Early pain in the globe of the right eye, continuing. Cold feet. Coldness of the body. Not able to wait on urinating. Feel an intense desire to be busy. Could scarcely give way to the wishes of friends with whom I was associated, went without dinner. Toward evening pain through the globe of the eye. Felt remarkable freedom in doing what I had to do. Mind pretty clear.

October 17. Very vindictive at night. Seminal emission.

October 20. Stopped in the midst of my work, as if by an irresistible power.

REMARKS.

Opuntia albaspinosa affects the heart fully as strongly as *Cactus grandiflorus* (verns), but not as powerfully as *Cereus Bonplandii*.

I have used it in one case of debility of the stomach with pain in the region of the spleen and heart, following a week's attack of diarrhoea, with very marked effect.

PROVING

Of Cereus Serpentinus, or Snake Cereus, Snake Cactus, by John H. Fitch, M. D.

October 20, 1874, at 11 p. m., took fifteen minims of a strong saturated tinct. *Cereus serpentinus*, made of the whole plant and furnished me for trial by Dr. R. E. Kunzé, of New York. Immediately a considerable drawing sensation or pain was felt over the left collar bone. After a little while it returns accompanied with pressure and weight over that quarter of the chest. Heaviness of the left arm at the elbow — a kind of tired feeling. At night remained at a late hour at prayer. Intended to remain all night at prayer, but fell asleep.

October 21. Felt dizzy in the morning, raising with a scraping effort mucus from the throat. 8:40 a. m., loose stool. Pain in the left little finger. Feel like one recovering from a cold (cephalic catarrh). At dinner bite the inside of the mouth, right cheek. Afternoon ; short, sharp pain through the heart. Light, lascivious feeling.

October 22. 7:25 a. m., took one-half dram tinct. *Cereus serpentinus*. Much expectoration of congealed mucus from the throat and nasal

passages, through the course of the morning. Stool at 8:45. Burning itching of the left ala of the nose. Itching of the inner canthus of the right eye, internal surface of the lid bordering the tarsal cartilage. 10:20, pain in chest, right side, just below the axilla and shoulder. Pinch in the left deltoid muscle. Itching of the surface of the chin covered by the beard, also of upper lip in beard. Mistakes made in conversation. Use the word fat for hat. At times considerable expectoration of mucus from throat and dislodgment of mucus from the nostrils. Angry at trifles. Genital organs small and dwindled. Tensive pain in the head and brain.

October 23. Awoke with a yellowish hue of countenance, slightly chilly (there is no fire in my room). Pustule on forehead, left side. Momentary pain at heart. Thrusting pain at heart, followed by sighing respiration. Cold feeling at side of neck below ears. Feel chilly easily.

October 24. Urine increased. Urinate every four hours. Pain in back, region of kidneys; sensitiveness to cold. Lameness of right shoulder blade, lower portion, dorsum, running to side; thorax increased by drawing deep inspiration. Lameness (very bad) of the right shoulder, constant for most part of the day. Feel as if a heavy load had been carried on it, which had produced a bruised chest. Painful feeling in bones, as if a snow storm were coming. (Am very sensitive to such influences during the winter months.) Very irritable, nervous. Swear a little. Urgency to urinate. Genital organs seem small. Tenderness of the cervical muscles. Pray nearly all night.

October 25. Perspire easily. Genital organs seem small. Much tenacious mucus in throat, detached with difficulty. Gas passed from the bowels.

October 26. Pain in the right wrist; pain (sharp) in right elbow. Urine the past three days deep colored. At noon in passing urine it precipitated a cloudy sediment. Tongue has been dry for two or three days. A faint feeling with all the time much saliva in the mouth. (This has occurred before during seasons of great despondency, to which I have been subject.) Pain in the neck, with perspiration on slight exertion. Pain felt, especially on the posterior cervical muscles. A good deal of gas passed by the bowels at times and symptoms recurring again. At evening pain in the right elbow, gnawing pain. Pustule on the right upper lip, angle of the mouth, on parts covered by beard. Very sore spot in the beard just below the left angle of the mouth.

October 27. Pain in the right arm.

October 28. Severe pain in the right arm in writing. Mucus in the throat and nose adhering. Much loose mucus in the throat (pharynx). Feel pain at heart after retiring.

October 29. Pain along the course of the nerves on the inner side of the right arm. Pain in the right shoulder. Feeling as if the shoulder were sprained by exertion of the muscles. Feel the effect of muscular exertion at the heart. Fit of sudden ungovernable rage. Very strongly smelling flatus from the bowels. Itching very severe on the sole and sides of the right foot, mostly toward the heel. Feel a sensation as if a seminal emission were in danger of taking place, with absence of any lascivious thought or fancy. Pain in the right lower extremity near the knee. Feeling as if the back part of the brain were

detached from the anterior portion and rotten. Insipidity of life, every thing mechanical, no enjoyment. 9:30 p. m., had a stool like a large lump; difficult. Feel better afterward. 10 p. m., pain in the region of the right kidney. Drawing pain in the right pectoral muscles, in the direction and at tendon of pectoralis minor and at coracoid process. Pain on the dorsum and inner side of right foot, drawing in character. Feels as if a horse had stepped on it. Pain; slight drawing in right orbit. Remain up very late, retire and have an emission of semen, followed by an incisive and very great urgent pain, first in one and then in the other testicle. Passed the time in the evening in prayer with partial relief.

October 30. Voluptuous feeling. Toward 10 a. m., a seminal emission, which seems as if it passed "like a lump." Feeling as if a lump had passed one. Urine yellowish with a tinge of green. Pain in the fifth metacarpal bone of right hand with aching toward wrist extended to elbow. Pain with coldness toward the shoulder in a cold room. Excited condition of the genital organs. Hyperæmia and hyperæsthenia increased by walking. Singing in the right ear. Urine pale, tea-green. Lameness of the fifth metacarpal bone of the right hand. Unfitness for study. After reading a short time get impression to desist. Omit the final part of a word in writing. Paralyzed feeling in heart (9:50 p. m.). Have felt for some time as if I had no friends or an indifference to those I have.

October 31. Spent the day reading. In the afternoon much mucus in the throat, also in the evening. Prone to lascivious thoughts. After kneeling, numbness of the right extremities from the knee down. Great apathy for several days.

November 4. Pain in the right testicle, with coldness.

November 6. Very sensitive to cold in the chest; feel badly, with dwindling of the genital organs. Enuresis. Mucus in the throat. Epistaxis. Very irritable, inclined to profanity.

November 7. Much raising of mucus from the throat and discharged from the nose. Clearing of the throat of mucus very often.

November 9. Feel mixed up, rage, swearing mood. Pain at heart after exertion, followed by shortness of breath, relieved after taking a full inspiration.

November 10. Throat cleared of mucus a great deal of the time this morning.

REMARKS.

I have had little opportunity to test this drug therapeutically.

It is a very near analogue of *Cereus Bonplandii*, affecting the nervous system and the emotive sphere especially more powerfully. Its more potent action is in affecting the nerves and muscular organs on the right side of the body, while *Cereus Bonplandii* has its most potent action on the left. It affects the heart like all the Cacti. Its effect on the kidneys is also similar. I should recommend it with much confidence, judging from provings in subacute rheumatism or "acute chronic," affecting the upper extremities and chest more especially, and right side of the body. I have used it in boils and pustules, skin troubles only, with success.

Cereus serpentinus in its effect on the brain and mind (sensorium) are very similar to *Cactus grandiflorus* (verus).





